

New insights into synaesthesia

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Scientists studying the bizarre phenomenon of synaesthesia – best described as a "union of the senses" whereby two or more of the five senses that are normally experienced separately are involuntarily and automatically joined together – have made a new breakthrough in their attempts to understand the condition.

V.S. Ramachandran and Elizabeth Seckel from the University of San Diego studied four synaesthetes who experience colour when seeing printed letters of the alphabet. Their aim was to determine at what point during sensory processing these 'colours' appeared.

To do this, the researchers asked their synaesthetes – as well as a [control group](#) – to complete three children's picture puzzles in which words were printed backwards or were not immediately visible.

When the results were processed, Ramachandran and Seckel discovered that the synaesthetes were able to complete the puzzles three times faster than the control subjects, and with fewer errors. The synaesthetes also revealed that they saw the obscured letters in the puzzles in the same colour as they would the 'normal' letters. This process effectively clued them in to what the letters were, and allowed them to read the distorted words much more quickly than the controls could.

Although it was just a small study, Ramachandran and Seckel's work, published in the current issue of *Neurocase*, 'strongly supports the interpretation that the synthetic colours are evoked preconsciously early in sensory processing'. The four synaesthetes had an advantage in

completing the puzzles because the 'extra' information they received when looking at the letters was then sent up to 'higher levels of [sensory processing](#), providing additional insight for reading the distorted and backwards text': a fascinating and important insight into a condition those of us who see letters as just letters find simply baffling.

More information: *Neurocase*, 'Synesthetic colors induced by graphemes that have not been consciously perceived', V.S.

Ramachandrana & Elizabeth Seckela

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